

Work Order ID 64160

PRELIMINARY ISSUE

Thursday, November 25, 2010 4:01:52 PM

Page 1

Item ID: D4298-008

Accept

Revision ID: PRELIM

Item Name: Plate

Start Date: 11/25/2010 Start Qty: 1.00

Required Date: 12/3/2010 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

POSITIVE
RECALL

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4298

PA1

100

0.00



Waterjet

FLOW WATER JET

Memo

0.00

FLOW CNC Waterjet

6061 . 080

1-Cut as per Dwg
Dwg Rev: PA1
Prog Rev: PA1
2-Deburr if necessary

RB10-11-30

RB10-12-3

RB10-12-9

①

Pro →

110

0.00



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

RB10-11-30

RB10-12-3

RB10-12-9

①

120

0.00



QC

Quality Control

QC8- Inspect parts - second check

Memo

0.00

- inspect to end

Dwg - 008

Statista

Statista



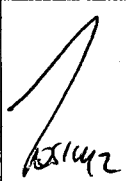


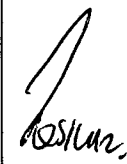

①

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/12/02	# 110	trying to save Reman's Part operator ground down a side of the part (cracking) in different locations.		-Scrap + Destroy AND Rekey M 116768	10-12-3	 10/12/02		 10/12/02
		RC Lack of Attention when grinding. Program was wrong		-Fix Program	10/12/02			 10/12/02

NOTE: Date & initial all entries

Work Order ID 64160

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Item ID: D4298-008

Accept

Revision ID: PREL'M

Item Name: Plate

Start Date: 11/25/2010 Start Qty: 1.00

Required Date: 12/3/2010 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130



Brake NC

Brake NC

Bend as per dwg

Memo

0.00

0.00

SB 10/12/13

(1)

(PTC)

140



Small Fab

Small Fab

Memo

1- C'sink holes as per rivet size and dwg, deburr

0.00

0.00

⇒ M-L 10/12/13

(1X)

150



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

- inspect to Eng

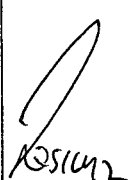
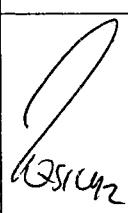
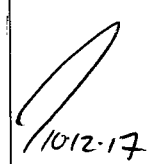
Dm - 008

8/10/12/13 (20)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes NO DQA: _____ Date: 10/2/17

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/2/17	130	Part bent to ERA Res A. New ERA design Rev. D had different bend dimensions for DAS production 2. 3rd party design		ERA to submit acceptance of the deviation to the current Rev. Attach email	N/A see attached email			10/2-17



NOTE: Date & initial all entries




Run 11 11/12

Work Order ID 64160

Thursday, November 25, 2010 4:01:52 PM

Item ID:	D4298-008	Accept		Setup	Start	
Revision ID:	PRELIM				Stop	
Item Name:	Plate					
Start Date:	11/25/2010	Start Qty:	1.00		Cust Item ID:	
Required Date:	12/3/2010	Req'd Qty:	1.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00	<i>=> JH</i>	<i>10/12/13</i>		<i>1</i>	<i>1</i>		
165  Powdercoat Powder Coating	Black Sandtex(Ref:4.3.5.7) per QSI005 4.3 <i>M 110588</i> Memo POWDER COAT Start Time: <i>8:40</i> Oven Temperature: <i>320°</i> Finish Time: <i>9:10</i>	0.00 0.00				<i>1</i>		<i>1210-12-14</i>	
170  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00	<i>=> JH</i>	<i>10/12/14</i>		<i>1</i>	<i>1</i>		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 64160

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Item ID: D4298-008

Accept



Setup Start



Revision ID: PREL 'M

Stop



Item Name: Plate

Start Date: 11/25/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 12/3/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Identify as per dwg & Stock Location <u>GA</u>	0.00							
Packaging	Memo <u>B 64160</u>	0.00							
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

10/12/14 SP (K)

MF
10-12-15

POSITIVE RECALL
EFFECTIVE 10-11-29 AUTH AK
RELEASED _____ DATE _____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 1

Thursday, November 25, 2010 4:01:56 PM

Work Order ID: 64160



Parent Item: D4298-008



Parent Item Name: Plate

Start Date: 11/25/2010

Required Date: 12/3/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 10.11.24 new issue DD Verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.080		Purchased					sf	7.4150	0.444	0.467368			
6061-T6 .080 Sheet													



10-11-30

Location

Loc Qty

Loc Code

MAT

7.415

115689

7.415

116268

115689

①

116286 10-12-3

116286 10-12-9 ④

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 64160
Description: PLATE		Part Number: D4298-008
Inspection Dwg: D4298-008, Rev: PREL2		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

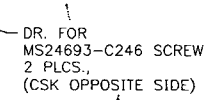
☒ First Article ☒ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø .098	+ .004 - .001	.098	✓		V 1802	
Ø .125	+ .005 - .001	.124	✓		V	
Ø .189	+ .005 - .001	.189	✓			
.63	± .030	.625	✓		V	
.38	± .030	.374	✓		V	
1.30	± .030	1.302	✓		V	
1.69	± .030	1.694	✓		V	
.94	± .030	.94	✓		V	
.38	± .030	.376	✓		V	
.81	± .030	.813	✓		V	
.78	± .030	.784	✓		V	
6.19	± .030	6.188	✓		V	
2.90	± .030	2.90	✓		V	
1.38	± .030	1.372	✓		V	
1.06	± .030	1.06	✓		V	
1.00	± .030	.998	✓		V	
1.69	± .030	1.691	✓		V	
2.09	± .030	2.099	✓		V	
1.19	± .030	1.190	✓		V	
5.25	± .030	5.256	✓		V	
.080	± .010	.078	✓		V	
.65	± .010	.657	✓		V	
.75	± .030	.753	✓		V	

Measured by: JB	Audited by: S	Prototype Approval:
Date: 10-12-9	Date: 10/12/13	Date:

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

WORK ORDER
NO. 6440
715 BS10-1120



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TITLE SINGLE PILOT VFR
CHART HOLDER, AW139

SIZE	DWG. NO.
C	13939-1-290 SHT 4 OF 10

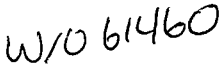
RE	A
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DART P/N	ERA P/N	Description
D4298-001	13939-1-290-001	CHART HOLDER ASSY
D4298-002	13939-1-290-002	PLATE SUB-ASSY
D4298-003	13939-1-290-003	PLATE SUB-ASSY
D4298-004	13939-1-290-004	FIXING BRACKET SUB-ASSY
D4298-005	13939-1-290-005	HINGE SUB-ASSY
D4298-006	13939-1-290-006	MACHINED INNER SUB-ASSY
D4298-007	13939-1-290-007	MACHINED OUTER SUB-ASSY
D4298-008	13939-1-290-008	PLATE
D4298-009	13939-1-290-009	PLATE
D4298-010	13939-1-290-010	FIXING BRACKET
D4298-011	13939-1-290-011	HINGE
D4298-012	13939-1-290-012	HINGE
D4298-013	13939-1-290-013	HINGE
D4298-014	13939-1-290-014	HINGE
D4298-015	13939-1-290-015	CLIP ANGLE
D4298-016	13939-1-290-016	CLIP STOP
D4298-017	13939-1-290-017	CLIP STOP MOUNT
D4298-018	13939-1-290-018	MACHINED INNER
D4298-019	13939-1-290-019	MACHINED OUTER
D4298-020	13939-1-290-020	KNOB
D4298-021	13939-1-290-021	MACHINE BOLT
D4298-022	13939-1-290-022	PIN TOPPER
D4298-023	13939-1-290-023	PIN
D4298-024	13939-1-290-024	SERRATED ADJUSTMENT WASHER

RELEASED
2010-12-15
W

W/10 641100

A	NEW ISSUE	SC	10.12.15
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED	<i>W</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>W</i>	D4298	SHEET 1 OF 1
APPROVED	<i>W</i>	TITLE	SCALE
DE APPR.	<i>W</i>	CHART HOLDER (AW 139)	NTS
DATE	10.12.15	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



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Era Helicopters LLC

SINGLE PILOT VFR
CHART HOLDER, AW139

SIZE	DWG. NO.
C	13939-1-290 SHT 4 OF 10

RE	

Eric Charbonneau

From: Domingue, Elvin [edomingue@erahelicopters.com]
Sent: November 24, 2010 1:48 PM
To: Nelson, David; 'echarbonneau@dartaero.com'
Subject: Re: DXF files (AW139 Chart Holder)

Yes that would be perfect!

Elvin Domingue
Sent from my BlackBerry Wireless Device

From: Nelson, David
To: 'Eric Charbonneau' <echarbonneau@dartaero.com>
Cc: Domingue, Elvin
Sent: Wed Nov 24 12:37:04 2010
Subject: RE: DXF files (AW139 Chart Holder)
Eric,

That sounds okay to me, but I'll fwd to Elvin Domingue on this.

Elvin, does this finish sound okay for the AW139 Chart Holder?

Thanks,
David

From: Eric Charbonneau [<mailto:echarbonneau@dartaero.com>]
Sent: Wednesday, November 24, 2010 12:10 PM
To: Nelson, David
Subject: RE: DXF files

Thanks David, at the same time would you know what kind of finish is required on the assembly, most of our interior parts we alodine and then powder coat black sandtex, this black is satin and prevent any glare. If this is what you would like please let me know, or fwd this to whoever can help me out with this.

Thank,
Eric

From: Nelson, David [<mailto:dnelson@erahelicopters.com>]
Sent: November 24, 2010 11:53 AM
To: 'Eric Charbonneau'
Subject: RE: DXF files

Here you go.

Thanks,
David

From: Eric Charbonneau [<mailto:echarbonneau@dartaero.com>]
Sent: Wednesday, November 24, 2010 10:11 AM

Eric Charbonneau

From: Nelson, David [dnelson@erahelicopters.com]
Sent: December 6, 2010 4:41 PM
To: 'Eric Charbonneau'
Subject: RE: era 13939-1-290-008
Attachments: image001.gif; 13939-1-290 - Single Pilot VFR Chart Holder AW139.pdf; 13939-1-290-008 Flat Pattern.dxf

Eric, the drawings were in error. The start of the bend should have been located 10.63" from the edge, not 10.56", on the main drawing. The straight part after the 30 degree bend is 1.52" long. The bend radius is .31". I'm attaching a revised version of the drawing with the corrections, plus the DXF flat pattern.

Thanks,
David Nelson

From: Eric Charbonneau [mailto:echarbonneau@dartaero.com]
Sent: Monday, December 06, 2010 12:44 PM
To: Nelson, David
Subject: FW: era 13939-1-290-008
Importance: High

Hi David, we are starting to produce parts for the "Chart Holder", shop support as come to me with the following problem please read e-mail below and let me know what we need to do with this.

ERIC CHARBONNEAU
Production Engineering Coordinator



T(613) 632-5200
F(613) 632-1053
echarbonneau@dartaero.com



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From: Marc Bellavance [mailto:mbellavance@dartaero.com]
Sent: December 6, 2010 1:22 PM
To: Charbonneau, Eric
Subject: era 13939-1-290-008
Importance: High

Eric,

There is something funky with part in subject line.

Sylvie performed the bend using the 1.62" dimension and came to see me with something that "looks" like the drawing (see attached). So I am thinking that either the flat pattern was changed without any update on the drawing or the flat pattern is wrong. Basically, the bend should be located at 10.56" from edge as shown on drawing, with 1.62" long portion of sheet bent upward at 30 degrees. We can't achieve this with the flat pattern we have and I am not in a